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| 10/078,952 | 02/19/2002 | Alexei Gorokhov | PHNL 010143 | 4566 |
| 24737 | 7590 | 06/23/2005 | EXAMINER | |
| PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510 | | | WILLIAMS, LAWRENCE B | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/078,952

Applicant(s)

GOROKHOV ET AL.

Examiner

Lawrence B. Williams

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 1-3, 6-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/19/02; 10/7/02
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Specification

1. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

2. Claims 1-3, 6-10 are objected to because of the following informalities: The legends (reference numbers in brackets) should be deleted. Appropriate correction is required.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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4. Claims 1 and 2 are provisionally rejected under the judicially created doctrine of double patenting over claim 4 of copending Application No. 09/959,015. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: Claims 1 and 2 of the instant application and claim 4 of copending Application No. 09/959,015 both disclose the subject matter of "a transmission system for transmitting a multicarrier signal from a transmitter to a receiver". Claim 4 of copending Application No. 09/959,015 discloses the same limitations as disclosed in claims 1 and 2 of the instant application. Claims 1 and 2 of the instant application do not however disclose, "wherein the channel estimator and/or the equalizer are arranged for exploiting an amplitude correlation between the amplitudes of different subcarriers and/or for exploiting a derivative correlation between the derivatives of different subcarriers". However, **it has been held that the omission of an element and its function is an obvious expedient if the remaining elements perform the same function as before.** In re Karlson, 136 USPQ 184 (CCPA). Also note Ex parte Rainu, 168 USPQ 375 (bd. App. 1969); **the omission of a reference element whose function is not needed would be obvious to one of ordinary skill in the art.**

5. Claim 4 is provisionally rejected under the judicially created doctrine of double patenting over claim 6 of copending Application No. 09/959,015. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: Both applications disclose the subject matter of “a transmission system for transmitting a multicarrier signal from a transmitter to a receiver, wherein the multicarrier signal is an OFDM signal”. Claim 6 of copending Application No. 09/959,015 discloses the same transmission system as disclosed in claim 4 of the instant application.

6. Claim 5 is provisionally rejected under the judicially created doctrine of double patenting over claim 7 of copending Application No. 09/959,015. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: Both applications disclose the subject matter of “a transmission system for transmitting a multicarrier signal from a transmitter to a receiver, wherein the multicarrier signal is a MC-CDMA signal”. Claim 7 of copending Application No. 09/959,015 discloses the same transmission system as disclosed in claim 5 of the instant application.

7. Claims 6 and 7 are provisionally rejected under the judicially created doctrine of double patenting over claim 11 of copending Application No. 09/959,015. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: Claims 6 and 7 of the instant application and claim 11 of copending Application No. 09/959,015 both disclose the subject matter of "a receiver for receiving a multicarrier signal from a transmitter". Claim 11 of copending Application No. 09/959,015 discloses the limitations as disclosed in claims 6 and 7 of the instant application.

Claims 6 and 7 of the instant application do not however disclose, "wherein the channel estimator and/or the equalizer are arranged for exploiting an amplitude correlation between the amplitudes of different subcarriers and/or for exploiting a derivative correlation between the derivatives of different subcarriers". However, **it has been held that the omission of an element and its function is an obvious expedient if the remaining elements perform the same function as before.** In re Karlson, 136 USPQ 184 (CCPA). Also note Ex parte Rainu, 168 USPQ 375 (bd. App. 1969); **the omission of a reference element whose function is not needed would be obvious to one of ordinary skill in the art.**

8. Claim 9 is provisionally rejected under the judicially created doctrine of double patenting over claim 13 of copending Application No. 09/959,015. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common

subject matter, as follows: Both applications disclose the subject matter of “a receiver for receiving a multicarrier signal from a transmitter, wherein the multicarrier signal is an OFDM signal”. Claim 13 of copending Application No. 09/959,015 discloses the same receiver as disclosed in claim 9 of the instant application.

9. Claim 10 is provisionally rejected under the judicially created doctrine of double patenting over claim 14 of copending Application No. 09/959,015. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: Both applications discloses the subject matter of “a receiver for receiving a multicarrier signal from a transmitter, wherein the multicarrier signal is a MC-CDMA signal”. Claim 14 of copending Application No. 09/959,015 discloses the same receiver as disclosed in claim 10 of the instant application.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

10. Claims 3 and 8 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4 and 11 of copending

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Application No. 09/959,015 in view of Tore (US Patent 6,252,908 B1). As noted above, the subject matter of claims 2 and 7 are fully disclosed by claims 4 and 11, respectively of copending Application No. 09/959,015. Claims 4 and 11 do not however disclose wherein the FFT is further arranged for demodulating a received multicarrier signal (abstract).

However, Tore discloses in Fig. 1, an FFT (10) arranged for demodulating a multicarrier signal. It would have been obvious to one skilled in the art at the time of invention to incorporate the teachings of Tore with the invention of claims 4 and 11 as a known method of retrieving bits in a multicarrier environment. It is well known that an FFT allows for easy compensation for attenuation and phase displacement (col. 1, lines 19-27).

This is a provisional obviousness-type double patenting rejection.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a.) Kadous et al. (US 6654408 B1) discloses a Method and System For Multi-Carrier Multiple Access (MC-CDMA) Reception In The Presence of Imperfections.

b.) Li et al. (US 6,526,103 B1) discloses a Multi-Stage Receiver.

c.) Ghosh (US 5,802,117) discloses a Method And Approach For Joint Frequency Offset and Timing Estimation of A Multicarrier Modulation System.

d.) Rezni et al. (US 6,724,809) discloses a Parallel Interference Cancellation Receiver for Multi-User Detection of CDMA Signals.

e.) Ginesi et al. (US 6,456,654 B1) discloses Frame Alignment And Time Domain Equalization For Communications Systems Using Multicarrier Modulation.

f.) Vook et al. (US 6,765,969 B1) discloses Method And Device For Multi-User Channel Estimation.

g.) Okamura (US 6,714,520 B1) discloses System Apparatus Method For Multi-Carrier Transmission.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence B Williams whose telephone number is 571-272-3037. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence B. Williams



KENNETH VANDERPUYE
PRIMARY EXAMINER